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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/579,774	05/21/2007	Janusz Sadowski	1034456-000032	5702

21839 7590 01/27/2009
BUCHANAN, INGERSOLL & ROONEY PC
POST OFFICE BOX 1404
ALEXANDRIA, VA 22313-1404

EXAMINER

TON, TRI T

ART UNIT	PAPER NUMBER
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2877

NOTIFICATION DATE	DELIVERY MODE
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01/27/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/579,774	Applicant(s) SADOWSKI, JANUSZ	
	Examiner TRI T. TON	Art Unit 2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>05/18/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 05/18/06 has been entered. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Oath/Declaration

2. The Oath and Declaration filed on 05/21/2007 is acceptable.

Drawings

3. The drawings filed on 05/18/2006. These drawings are acceptable.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2877

5. Claims 1-4, 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Quinn et al. (U.S. Publication No. 2003/0103208) in view of Nikitin et al. (U.S. Patent No. 6,628,376). Hereafter, “Quinn” and “Nikitin”.

Regarding Claims 1 and 11, Quinn teaches a beam of electromagnetic radiation is produced by a source of electromagnetic radiation ([0007], lines 4-9, [0020], lines 1-3), the beam of electromagnetic radiation is directed onto a material layer (figure 2, element 44, 52, [0019], lines 6-8) in an angle of incidence (the following figure 2, element A), which material layer at least partly covers a planar surface ([0027]), a resonance phenomenon is caused ([0002]), a beam of reflected electromagnetic radiation is produced and directed by the surface ([0029]) and further to a detector for detecting the level of intensity of the beam of reflected electromagnetic radiation ([0029]), and the change of intensity of the beam of reflected electromagnetic radiation, caused by the surface resonance phenomenon, is measured ([0016], lines 9-24, [0028], [0029], lines 7-21), the beam of reflected electromagnetic radiation being reflected with a mirror to the detector.

However, Quinn does not teach the beam of electromagnetic radiation being directed through a prism. Nikitin teaches the beam of electromagnetic radiation being directed through a prism (figure 2, element 13). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify Quinn by having a beam of electromagnetic radiation being directed through a prism in order to “be necessary for SPP excitation at the interface of the layers”, (stated by Nikitin, column 7, lines 51-62).

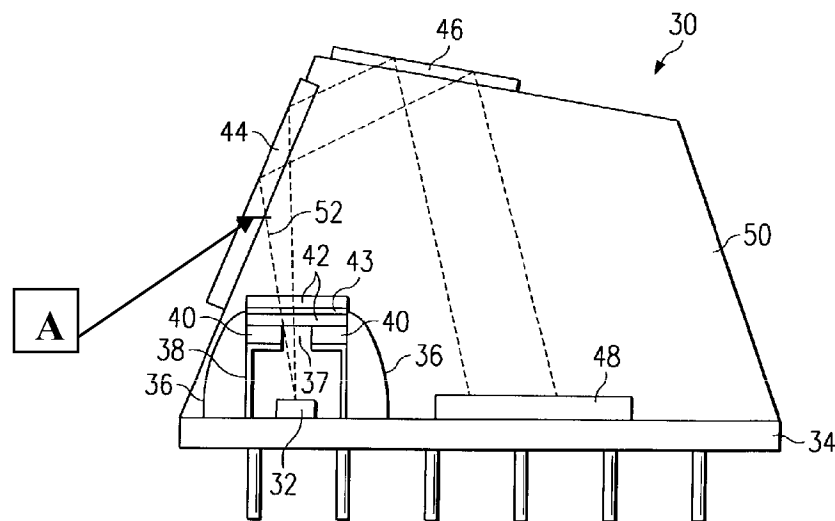


FIG. 2

Regarding Claims 2, 12, Quinn teaches a planar mirror being used (figure 2, element 46),

However, Quinn does not teach the planar mirror being arranged in plane parallel relation to the planar surface. Nikitin teaches the planar mirror being arranged in plane parallel relation to the planar surface (figure 2, elements 12, 19), (the beam splitter 12 works as a reflector with reflecting surface parallel to the surfaces 14, 15, 16). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify Quinn by having the planar mirror being arranged in plane parallel relation to the planar surface in order to direct the reflected light to the detector (figure 2, elements 12, 19, 21).

Art Unit: 2877

Regarding Claims 3, 13, Quinn teaches the source of electromagnetic radiation is a laser ([0014], lines 7-9).

Regarding Claims 4, 14, Quinn teaches the material layer is metal film, preferably containing Au ([0027]).

6. Claims 5, 6, 9, 15, are rejected under 35 U.S.C. 103(a) as being unpatentable over Quinn et al. (U.S. Publication No. 2003/0103208) in view of Nikitin et al. (U.S. Patent No. 6,628,376) and further in view of Maule (U.S. Patent No. 5,415,842). Hereafter, “Quinn”, “Nikitin” and “Maule”.

Regarding Claims 5, 6, 9, 15, Quinn and Nikitin teach all the limitations of claim 1 as stated above except for a semi-cylindrical prism having a planar surface having a longitudinal midline, and the beam of electromagnetic radiation is directed onto the longitudinal midline. Maule teach a semi-cylindrical prism having a planar surface having a longitudinal midline, and the beam of electromagnetic radiation is directed onto the longitudinal midline (column 3, lines 18-20, figure 1, element 5). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify Quinn and Nikitin by having a semi-cylindrical prism in order to direct the reflected light with any incident angle to the detector (figure 1, elements 5, 4, 7, column 3, lines 31-33).

Art Unit: 2877

7. Claims 6-10, 16-22, are rejected under 35 U.S.C. 103(a) as being unpatentable over Quinn et al. (U.S. Publication No. 2003/0103208) in view of Nikitin et al. (U.S. Patent No. 6,628,376) and further in view of Johansen (U.S. Publication No. 2003/0048452). Hereafter, “Quinn”, “Nikitin” and “Johansen”.

Regarding Claims 6, 7, 8, 9, 16-18, 19-21, Quinn and Nikitin teach all the limitations of claim 1 as stated above except for the prism and the mirror being rotated together with respect to the source of electromagnetic radiation and the detector so that the angle of incidence varies to achieve a surface plasmon resonance phenomenon. Johansen teach the prism and the mirror being rotated ([0073]). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify Quinn and Nikitin by having the prism and the mirror being rotated in order to achieve a surface plasmon resonance phenomenon ([0005], [0073]).

Regarding Claims 10, 22, Quinn and Nikitin teach all the limitations of claim 1 as stated above except for a sensor for detecting the presence of analytes in a sample being arranged in functional contact with the material layer, which sensor comprises biomolecules capable of binding a specific analyte to the biomolecules, and which sensor is capable of causing a change on the material layer to which it is in functional contact, indicative of an increase of analyte bound to the biomolecules, a sample containing analytes is fed to the sensor, causing analytes to bound to the biomolecules, causing a change in the material layer, and causing a change in the resonance phenomenon and the reflected electromagnetic radiation indicative of the presence of analytes in the sample fed to the sensor. Johansen teach a sensor for detecting the presence of analytes in a sample being arranged in functional contact with the material layer ([0002]), which

Art Unit: 2877

sensor comprises biomolecules capable of binding a specific analyte to the biomolecules ([0002], [0006]), and which sensor is capable of causing a change on the material layer to which it is in functional contact, indicative of an increase of analyte bound to the biomolecules ([0012], [0063]), a sample containing analytes is fed to the sensor ([0065], figure 2c), causing analytes to bound to the biomolecules (figure 2c), causing a change in the material layer, and causing a change in the resonance phenomenon and the reflected electromagnetic radiation indicative of the presence of analytes in the sample fed to the sensor ([0006]). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify Quinn and Nikitin by having biomolecules and binding a specific analyte to the biomolecules in order to have a surface plasmon resonance phenomenon ([0002], [0006], [0012], [0063]).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The references of Quinn et al. (U.S. Publication No. 2003/0103208), Nikitin et al. (U.S. Patent No. 6,628,376), Johansen (U.S. Publication No. 2003/0048452) and Maule (U.S. Patent No. 5,415,842) teach of various features similar to the claimed invention.

Fax/Telephone Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tri T. Ton whose telephone number is (571) 272-9064. The examiner can normally be reached on 10:30am - 7:00pm.

Art Unit: 2877

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr. can be reached on (571) 272-2059. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**/Kara E Geisel/
Primary Examiner,
Art Unit 2877**

December 30, 2008

Examiner /TTT/